

IN THE CLAIMS:

The following is a complete listing of the claims, and replaces all earlier version and listings.

1. (currently amended): A peripheral device which can communicate with a plurality of client devices connected to a network, comprising:

notification means for notifying a proxy response server connectable to the network of a sleep mode transition request when the peripheral device changes from a normal data processing wait status to a sleep mode;

reception means for receiving a sleep release request from the proxy response server based on a network packet indicating a peripheral device discovery request for a peripheral device which is changing to a predetermined sleep mode issued by any client device connected to the network after the proxy response server receives the sleep mode transition request from the peripheral device, wherein the network packet which is the peripheral device discovery request is a search request packet for predetermined multicast address set as a predetermined network address for a plurality of peripheral devices; and

control means for releasing the sleep mode and returning to a data processing wait status when said reception means receives the sleep release request,

wherein the multicast address for a peripheral device discovery request in a sleep status can be different from a multicast address of a peripheral device discovery request in a normal status.

2. and 3. (canceled).

4. (currently amended): The peripheral device according to claim 1, wherein the search request packet includes an ~~an StandbyQuery~~ instruction indicating a discovery request to a sleeping device.

5. (currently amended): A server device proxy for a peripheral device which can communicate with a plurality of client devices connected to a network, comprising:

registration means for receiving and registering a sleep transition request announced from a peripheral device in the network when the peripheral device changes from a normal data processing wait status to a sleep mode;

discovery means for retrieving a peripheral device in a sleep status depending on a network packet indicating a specific peripheral device discovery request for discovery of a sleeping peripheral device issued from any client device connected to the network after registration by said registration means, wherein the network packet which is the peripheral device discovery request is a search request packet for a predetermined multicast address set as a predetermined network address for a plurality of peripheral devices; and

notification means for notifying a sleeping peripheral device whose sleep release request has been registered for release of a sleep mode to a peripheral device retrieved by said discovery means,

wherein the multicast address for a peripheral device discovery request in a sleep status can be different from a multicast address of a peripheral device discovery request in a normal status.

6. and 7. (canceled).

8. (currently amended): The server device according to claim 5, wherein the search request packet includes an ~~StandbyQuery~~ instruction indicating a discovery request to a sleeping device.

9. (currently amended): A client device which can communicate with a plurality of peripheral devices or server devices connected over a network, comprising:

issue means for issuing a network packet indicating a specific peripheral device discovery request for discovery of a peripheral device during transition to sleep status based on a response result from a network for a request to retrieve a peripheral device in a normal status, wherein the network packet which is the peripheral device discovery request is a search request packet for a predetermined multicast address set as a predetermined network address for a plurality of peripheral devices;

reception means for receiving a return response from any peripheral device notified of a sleep release request by said server device after the peripheral device discovery request has issued by said issue means; and

data processing means for transmitting a predetermined data processing request to a specific peripheral device whose sleep mode has been released after said reception means has received the return response,

wherein the multicast address for a peripheral device discovery request in a sleep status can be different from a multicast address of a peripheral device discovery request in a normal status.

10. and 11. (canceled).

12. (currently amended): The client device according to claim [[10]] 9, wherein the search request packet includes an ~~Standby~~~~Query~~ instruction indicating a discovery request to a sleeping device.

13. (currently amended): A network device system in which a plurality of peripheral devices connected over a network can communicate with a plurality of client devices capable of recognizing a connection status of a peripheral device in a data processing wait status in the network,

wherein said peripheral device comprises:

notification means for notifying a proxy response server connectable to the network of a sleep mode transition request when the peripheral device changes from a normal data processing wait status to a sleep mode;

reception means receiving a sleep release request from the proxy response server based on a network packet indicating a peripheral device discovery request for a

peripheral device which is changing to a predetermined sleep mode issued by any client device connected to the network after the proxy response server receives the sleep mode transition request from the peripheral device; and

control means for releasing the sleep mode and returning to a data processing wait status when said reception means receives the sleep release request,

and wherein said proxy response server comprises:

registration means for receiving and registering a sleep transition request announced from a peripheral device in the network when the peripheral device changes from a normal data processing wait status to a sleep mode;

discovery means for retrieving a peripheral device in a sleep status depending on a network packet indicating a specific peripheral device discovery request for discovery of a sleeping peripheral device issued from any client device connected to the network after registration by said registration means; and

notification means for notifying a sleeping peripheral device whose sleep release request has been registered for release of a sleep mode to a peripheral device retrieved by said discovery means,

and wherein said client device comprises:

issue means for issuing a network packet indicating a specific peripheral device discovery request for discovery of a peripheral device during transition to sleep status based on a response result from a network for a request to retrieve a peripheral device in a normal status;

reception means for receiving a return response from any peripheral device notified of a sleep release request by said server device after the peripheral device discovery request has issued by said issue means; and

data processing means for transmitting a predetermined data processing request to a specific peripheral device whose sleep mode has been released after said reception means has received the return response,

wherein the network packet which is the peripheral device discovery request is a search request packet for a predetermined multicast address set as a predetermined network address for a plurality of peripheral devices, and

wherein the multicast address for a peripheral device discovery request in a sleep status can be different from a multicast address of a peripheral device discovery request in a normal status.

14. and 15. (canceled).

16. (currently amended): The network device system according to claim [[14]] 13, wherein the search request packet includes an StandbyQuery instruction indicating a discovery request to a sleeping device.

17. (currently amended): A device retrieving method for use with a peripheral device which can communicate with a plurality of client devices connected to a network, comprising:

a notifying step of notifying a proxy response server connectable to the network of a sleep mode transition request when the peripheral device changes from a normal data processing wait status to a sleep mode;

a receiving step of receiving a sleep release request from the proxy response server based on a network packet indicating a restriction means for a peripheral device which is changing to a predetermined sleep mode issued by any client device connected to the network after the proxy response server receives the sleep mode transition request from the peripheral device, wherein the network packet which is the peripheral device discovery request is a search request packet for a predetermined multicast address set as a predetermined network address for a plurality of peripheral devices; and

control step of releasing the sleep mode and returning to a data processing wait status when said receiving step receives the sleep release request,

wherein the multicast address for a peripheral device discovery request in a sleep status can be different from a multicast address of a peripheral device discovery request in a normal status.

18. (currently amended): A device retrieving method for use with a server device proxy for a peripheral device which can communicate with a plurality of client devices connected to a network, comprising:

a registration step of receiving and registering a network packet indicating a sleep transition request announced from a peripheral device in the network when the peripheral device changes from a normal data processing wait status to a sleep mode;

a retrieving step of retrieving a peripheral device in a sleep status depending on a network packet indicating a specific peripheral device discovery request for discovery of a sleeping peripheral device issued from any client device connected to the network after registration in said registering step, wherein the network packet which is the peripheral device discovery request is a search request packet for a predetermined multicast address set as a predetermined network address for a plurality of peripheral devices; and

a notifying step of notifying a sleeping peripheral device whose sleep release request has been registered for release of a sleep mode to a peripheral device retrieved in said retrieving step,

wherein the multicast address for a peripheral device discovery request in a sleep status can be different from a multicast address of a peripheral device discovery request in a normal status.

19. (currently amended): A device retrieving method for use with client device which can communicate with a plurality of peripheral devices or server devices connected over a network, comprising:

a issuing step of issuing a network packet indicating a specific peripheral device discovery request for discovery of a peripheral device during transition to sleep status based on a response result from a network for a request to retrieve a peripheral device in a normal status, wherein the network packet which is the peripheral device discovery request is a search request packet for a predetermined multicast address set as a predetermined network address for a plurality of peripheral devices;



a receiving step of receiving a return response from any peripheral device notified of a sleep release request by said server device after the peripheral device discovery request has issued in said issuing step; and

a data processing step of transmitting a predetermined data processing request to a specific peripheral device whose sleep mode has been released after said receiving step has received the return response,

wherein the multicast address for a peripheral device discovery request in a sleep status can be different from a multicast address of a peripheral device discovery request in a normal status.

20. (currently amended): A device retrieving method for use with a network device system in which a plurality of peripheral devices connected over a network can communicate with a plurality of client devices capable of recognizing a connection status of a peripheral device in a data processing wait status in the network,

wherein, in ~~said~~ the peripheral device, said method comprises:

a notifying step of notifying a proxy response server connectable to the network of a network packet indicating a sleep mode transition request when the peripheral device changes from a normal data processing wait status to a sleep mode;

a receiving step of receiving a sleep release request from the proxy response server based on a peripheral device discovery request for a peripheral device which is changing to a predetermined sleep mode issued by any client device connected to the network after the proxy response server receives the sleep mode transition request from the peripheral device; and

a control step of releasing the sleep mode and returning to a data processing wait status when ~~said receiving step receives~~ the sleep release request is received in said receiving step,

and wherein, in ~~said~~ the proxy response server, said method comprises:

a registering step of receiving and registering a sleep transition request announced from a peripheral device in the network when the peripheral device changes from a normal data processing wait status to a sleep mode;

a retrieving step of retrieving a peripheral device in a sleep status depending on a network packet indicating a specific peripheral device discovery request for discovery of a sleeping peripheral device issued from any client device connected to the network after registration in said registering step; and

a notifying step of notifying a sleeping peripheral device whose sleep release request has been registered for release of a sleep mode to a peripheral device retrieved in said retrieving step,

and wherein, in ~~said~~ the client device, said method comprises:

an issuing step of issuing a network packet indicating a specific peripheral device discovery request for discovery of a peripheral device during transition to sleep status based on a response result from a network for a request to retrieve a peripheral device in a normal status;

a receiving step of receiving a return response from any peripheral device notified of a sleep release request by ~~said~~ the server device after the peripheral device discovery request has issued in said issuing step; and

a data processing step of transmitting a predetermined data processing request to a specific peripheral device whose sleep mode has been released after ~~said reception means has received~~ the return response has been received in said receiving step,

wherein the network packet which is the peripheral device discovery request is a search request packet for a predetermined multicast address set as a predetermined network address for a plurality of peripheral devices, and

wherein the multicast address for a peripheral device discovery request in a sleep status can be different from a multicast address of a peripheral device discovery request in a normal status.

21. (currently amended): The peripheral device according to claim 1, wherein said sleep mode ~~refers to~~ is a mode ~~[[to]]~~ in which power is not supplied to a status management unit of a printer controller from which a LAN controller can receive a status.